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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,138	11/13/2003	Scott B. Kesler	DP-309051	9605
22851	7590	04/06/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			NGUYEN, HIEP	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			2816	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/713,138	Applicant(s) KESLER, SCOTT B.	
	Examiner Hiep Nguyen	Art Unit 2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-18 is/are rejected.
- 7) ☒ Claim(s) 8,9,19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on 01-26-02 has been received and entered in the case. New ground of rejections necessitated by the amendment is set forth below.

Claim Objections

Claim 8 is objected to because of the following informalities: the recitation “a blinding timer discharge current source configured to limit current drawn by the blinding timer discharge current source while a capacitor coupled to the input signal” is confusing because it is not clear how a blinding timer discharge current source can be configured to limit current drawn by the blinding timer discharge current source. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 10-15, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ide et al. (US Pat. 4,456,840).

Regarding claims 1 and 2, 3, 4 and 17, figures 3 and 6 of Ide show a comparator circuit comprising:

an outer stage including first and second transistors (Q1) and (Q2);

an inner stage comprising transistors (Q3) and (Q4);

an bias current control circuit (Q103-Q106, Q5, Q9-Q11) for controlling bias currents associated with the first and second transistors (Q1, Q2), wherein the bias current control circuitry minimizes the bias currents when a difference between a magnitude of an input signal (Vi) at the signal input terminal and a magnitude of a reference signal (Vr) applied to the reference input terminal is greater than a predetermined value, and wherein the bias current control circuitry increases the bias currents associated with the comparator

Art Unit: 2816

circuit when the difference between the magnitudes of the input signal at the signal input terminal and the magnitude of the reference signal at the reference input terminal is less than the predetermined value. Note that when the magnitude of the input signal (V_i) is greater than the magnitude of the reference signal (V_r), the output (V_o) of the comparator becomes HIGH (col. 3, lines 30-35) the bias currents associated with the first and second transistors is $I_1=I_2=I_o$ or $I_1+I_2=2I_o$ (col. 4, lines 62-67 ; col. 5 lines 1-2). When the magnitude of the input signal (V_i) is smaller than the magnitude of the reference signal (V_r), the output (V_o) of the comparator becomes LOW , the bias currents associated with the first and second transistors is $I_1=2I_o$ and $I_2=I_o$ or $I_1+I_2=3I_o$ (col. 4, lines 37-46). Thus, the total bias current increases. When $V_i=V_r$, the current are at a desired magnitude ($3I_o$).

Regarding claim 5, the signal input signal is a non-inverting input and the reference input terminal is an inverting input.

Regarding claim 7, the transistors of the circuit are bipolar transistors.

Regarding claims 10 and 13, figures 3 and 6 of Ide show a method for reducing currents associated with a comparator circuit comprising the steps of minimizing and increasing the bias currents when the magnitudes of the input signal is greater and less than a predetermined value.

Regarding claims 11 and 12, the bias current I_1 , I_2 are applied to the outer stage and the input signal and the reference signal are voltage signals.

Regarding claims 14 and 15, the signal input signal is a non-inverting input and the reference input terminal is an inverting input. When $V_i=V_r$, the currents are at a desired magnitude ($3I_o$).

Regarding claim 18, the signal input signal is a non-inverting input and the reference input terminal is an inverting input.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2816

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ide et al. (US Pat. 4,456,840).

Regarding claims 6 and 16, figure 3 and 6 of Ide include all the limitations of these claims. The predetermined value is 20mV instead of 50mV as recited. However, the predetermined value is well known to one having skilled in the art as the hysteresis width of a comparator. The hysteresis value can be selected for preventing false triggering due to noises of the circuit. Therefore, the particular values of predetermined value 50 mV recited by the applicant are considered to be design expedient depending upon a particular environment or an application in which the circuit of Ide is to be used. Lacking of showing any criticality, a skilled artisan would be motivated to select the predetermined value to be 50mV for higher level of preventing false triggering due to noises of the circuit. Thus, the limitation of having the predetermined value to be 50mV will not be patentable under 35 U.S.C. 103(a).

Allowable Subject Matter

Claims 8, 9, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory

Art Unit: 2816

period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

04-01-05



TUANT. LAM
PRIMARY EXAMINER